import java.util.*;

/**
 * A ShellCommandTable object maintains a dispatch table of
 * ShellCommand objects keyed by the command names used to invoke
 * them.
 *
 * To add a new shell command to the table, install it from
 * method fillTable().
 *
 * @see ShellCommand
 *
 * @version 7
 */

public class ShellCommandTable {

private Map table = new TreeMap();

/**
 * Construct and fill a shell command table.
 */

public ShellCommandTable() {
    fillTable();
}

/**
 * Get a ShellCommand, given the command name key.
 *
 * @param key the name associated with the command we're
 *            looking for.
 *
 * @return the command we're looking for, null if none.
 */

public ShellCommand lookup(String key) {
    ShellCommand commandObject = (ShellCommand) table.get(key);
    if (commandObject != null) {
        return commandObject;
    }

    // try to load dynamically
    // construct classname = "KeyCommand"
    char[] chars = (key + "Command").toCharArray();
    chars[0] = key.toUpperCase().charAt(0);
    String classname = new String(chars);
    try {
        commandObject = (ShellCommand) Class.forName(classname).newInstance();
    } catch (Exception e) { // couldn't find class
        return null;
    }
    install(key, commandObject); // put it in table for next time
    return commandObject;
}

/**
 * Get an array of the command names.
 *
 * @return the array of command names.
 */

public String[] getCommandNames() {
    return (String[]) table.keySet().toArray(new String[0]);
}

/**
 * Install a new command.
 *
 * @param command the command to add to the table.
 */

private void install(String commandName, ShellCommand command) {
    table.put(commandName, command);
}

/**
 * Fill the dispatch table with ShellCommand objects, keyed by their
 * command names.
 */

private void fillTable() {
    install("list", new ListCommand());
    install("cd", new CdCommand());
    install("newfile", new NewfileCommand());
    install("remove", new RemoveCommand());
    install("help", new HelpCommand());
    install("mkdir", new MkdirCommand());
    install("type", new TypeCommand());
    install("logout", new LogoutCommand());
}
}